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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,376	01/18/2002	Yuji Ogasawara	20-704	9504

7590

11/25/2003

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EXAMINER

DINH, JACK

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 11/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/031,376	OGASAWARA ET AL.	
	Examiner	Art Unit	
	Jack Dinh	2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133)
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-12, 15 and 16 is/are allowed.
- 6) ☒ Claim(s) 1-8, 13, and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.


Loha Ben
Primary Examiner

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input checked="" type="checkbox"/> Other: DETAILED ACTION . |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

1. Claims 1, 4, 6-8, 13 and 14 are rejected under 35 U.S.C. 102(a) as being anticipated by Atsumi et al. (U.S. Patent 6,351,252).

(a) Regarding claim 1, Atsumi et al. (figure 1) is interpreted as disclosing a head-mounted image display device having an image producing unit (col. 1, lines 7-13), wherein the image display device comprising a casing body **2** in which an image producing unit is incorporated, a pair of frame supporting members **4R** and **4L** fixed to the casing body, and a pair of frame members **5R** and **5L** for wearing the head-mounted image display device on a head, supported by the frame supporting members, and the pair of frame members having respective recesses **11R** and **11L** accepting detachable earphones **7R** and **7L**, wherein the respective pair to the frame supporting members has the same shape.

(b) Regarding claim 4, Atsumi et al. (figure 1) is interpreted as disclosing a head-mounted image display device having an image producing unit (col. 1, lines 7-13), wherein the image display device comprising a casing body **2** in which an image producing unit is incorporated, a

pair of frame supporting members **4R** and **4L** fixed to the casing body, and a pair of frame members **5R** and **5L** for wearing the head-mounted image display device on a head, supported by the frame supporting members allowing the frame members to pivot freely and having respective recesses **11R** and **11L** accepting detachable earphones **7R** and **7L**, wherein the frame member has facing pins (see figure 9) formed on an inner surfaces of flanges constituting a proximal portion thereof acting as a fulcrum, and the frame supporting member has pin supporting holes (see figure 9), into which the facing pins are fitted, bored therein.

(c) Regarding claim 6, Atsumi et al. (figure 9) is interpreted as further disclosing that the frame member can be attached to or detached from the frame supporting member by elastically deforming the flanges.

(d) Regarding claim 7, Atsumi et al. (figure 9) is interpreted as further disclosing a U-shaped groove is formed in the frame support members wherein the frame members moved along the U-shaped grooves for at least attaching or detaching (see figure).

(e) Regarding claim 8, Atsumi et al. (figure 6 and 9) is interpreted as disclosing that frame members can be attached to or detached from the frame supporting members while being folded into a portable and storable state.

(f) Regarding claim 13, Atsumi et al. (figure 1) is interpreted as disclosing a head-mounted image display device having an image producing unit (col. 1, lines 7-13), wherein the image

display device comprising a casing body **2** in which an image producing unit is incorporated, a pair of frame supporting members **4R** and **4L** fixed to the casing body, and a pair of frame members **5R** and **5L** for wearing the head-mounted image display device on a head, supported by the frame supporting members allowing the frame members to pivot freely, wherein earphone holders **11R** and **11L** are formed in an outside distal recess portion of at least one of the pair of frame members.

(g) Regarding claim 14, Atsumi et al. (figure 1) is interpreted as disclosing a head-mounted image display device having an image producing unit (col. 1, lines 7-13), wherein the image display device comprising a casing body **2** in which an image producing unit is incorporated, a pair of frame supporting members **4R** and **4L** fixed to the casing body, and a pair of frame members **5R** and **5L** for wearing the head-mounted image display device on a head, supported by the frame supporting members allowing the frame members to pivot freely, wherein earphone holders **11R** and **11L** are formed in an outside distal recess portion of the frame member that include an opening **11Rb**, to which a speaker surface of an earphone is faced, and claws **11Ra** that clamp a body of the earphone facing each other in a horizontal direction that deform elastically (see figures 7 and 8).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atsumi et al. (U.S. Patent 6,351,252).

(a) Regarding claim 2, Atsumi et al. (figure 1) is interpreted as disclosing a head-mounted image display device having an image producing unit (col. 1, lines 7-13), wherein the image display device comprising a casing body **2** in which an image producing unit is incorporated, a pair of frame supporting members **4R** and **4L** fixed to the casing body, and a pair of frame members **5R** and **5L** for wearing the head-mounted image display device on a head, supported by the frame supporting members allowing the frame members to pivot freely, wherein the pair of frame member has a rib formed on the surface thereof extended over an effective range in a longitudinal direction of the frame members for guiding an earphone wire **8R** or **8L**. Atsumi et al. is interpreted as disclosing all the claimed limitations except that the rib is formed on the outer surface, rather than the inner surface as shown in Atsumi's figure 1. However, the applicant has not disclosed any unexpected results for forming the ribs on the outside surface, over that of the prior art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide ribs on the outside or inside surface for the purpose of providing a guiding means for earphone wires.

(b) Regarding claim 3, Atsumi et al. (figure 1) is interpreted as disclosing a head-mounted image display device having an image producing unit (col. 1, lines 7-13), wherein the image display device comprising a casing body **2** in which an image producing unit is incorporated, a

pair of frame supporting members **4R** and **4L** fixed to the casing body, and a pair of frame members **5R** and **5L** for wearing the head-mounted image display device on a head, supported by the frame supporting members allowing the frame members to pivot freely, wherein the pair of frame member has a rib formed on the surface thereof extended over an effective range in a longitudinal direction of the frame members for guiding an earphone wire **8R** or **8L**. Atsumi et al. is interpreted as disclosing all the claimed limitations except that the rib is a plurality of ribs formed on the outer surface, rather than the inner surface as shown in Atsumi's figure 1. However, it is not necessary for a single wire guiding channel to have plurality of ribs. In addition, the applicant has not disclosed any unexpected results for forming the ribs on the outside surface, over that of the prior art. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide ribs on the outside or inside surface for the purpose of providing a guiding means for earphone wires.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Atsumi et al. (U.S. Patent 6,351,252) as applied in claim 4, in view of Motohiro et al. (Japan Patent Publication No. 10-293544).

Regarding claim 5, Atsumi et al. is interpreted as disclosing all the claimed limitations, as described in claim 4 above, except for an axis linking the face pins formed on each of the frame members is inclined by a predetermined angle relative to a major axis plane defined in the frame members. Within the same field of endeavor, Motohiro et al. (figure 7, paragraph 0066) is interpreted as disclosing an axis 23a linking the facing pins formed on each frame member is inclined by a predetermined angle relative to a major axis plane define in the frame member.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the axis linking facing pins inclined by a predetermined angle for the purpose of having the frame members angle when folded.

Allowable Subject Matter

4. Claims 9-12, 15 and 16 are allowed. The following is a statement of reasons for the indication of allowable subject matter: The present invention relates to a head-mounted display device including an optical system that projects an image.

(a) Regarding claim 9, the claimed features of head-mounted image display device that are distinguished over prior art (Atsumi et al. U.S. Patent 6,351,252) including, *inter alia*, frame spreading magnitude changing devices each of which is attached to the frame member so that the device can move relative to the frame member, and is used to adjust an angle of pivot by which the frame member pivots, wherein the frame spreading magnitude changing devices is moved relative to the frame member so that the device will have distal projections thereof inserted into or withdrawn from gaps between the contacting portions of the frame member, whereby a pivot angle by which the frame member can pivot is adjusted at least in two steps.

(b) Regarding claim 10, the claimed features of head-mounted image display device that are distinguished over prior art (Atsumi et al. U.S. Patent 6,351,252) including, *inter alia*, frame spreading magnitude changing devices each of which is attached to the frame member so that the

device can move relative to the frame member, and is used to adjust a pivot angle by which the frame member can pivot, wherein the frame spreading magnitude changing devices is moved relative to the frame member so that the device will have distal projections thereof inserted into or withdrawn from gaps between the contacting portions of the frame member, whereby the pivot angle by which the frame member can pivot is adjusted to be any position that is not a stepwise specified position.

(c) Regarding claim 15, the claimed features of head-mounted image display device that is distinguished over prior art (Atsumi et al. U.S. Patent 6,351,252) is where the frame member has distal portion thereof shifted down by a predetermined dimension with respect to a major axis plane defined in the proximal portion of the frame member that acts as a fulcrum.

Other Information/Remarks

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack Dinh whose telephone number is (703) 605-0744. The examiner can normally be reached on M-T (8:30 AM - 6:30 PM). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y Epps can be reached on (703) 308-4883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications. Any inquiry of a general nature or relating to the status of this

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application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

November 17, 2003

Jack Dinh
Patent Examiner



Loha Ben
Primary Examiner